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NOTE ON FISHES FROM GUADALCANAR, SOLOMON ISLANDS

In 1921 Mr. J. August Kusche, the well-known entomological collector, while on a collecting trip in the South Pacific, visited the Solomon Islands. While on Guadalcanar, the principal island of that group, Mr. Kusche obtained a few specimens of fishes which he generously donated to the California Academy of Sciences by which they have been placed in the ichthyological collection of the Steinhart Aquarium which is under the management of the California Academy of Sciences. The specimens were all collected May 20, 1921, and are as follows:

1. *Chaetodon baronessa* Cuv. & Val., Triangular Butterfly Fish.

One specimen (No. 1, Steinhart Aquarium), 3.3 in. long. Head 3.1; depth 1; snout about equal to, or but little greater than, eye which is 3 in head. Dorsal XI, 26; Anal III, 21; scales about 33.

Color in alcohol, yellowish, shading into dusky on posterior half of body; narrow dark stripes, which are bent at the median line with the angle pointing forward, cover the body; a black band as wide as eye extending from occiput through eye out on the ventral fins; a short dark band in front of this and another posterior to it extending from origin of dorsal to front of base of pectoral; caudal with posterior third lighter.

2. *Hepatus lineatus* (Linnaeus). Blue-lined Surgeon Fish.

Two specimens (Nos. 3 and 4, Steinhart Aquarium) 8.75 and 9 inches long. Head 3.8; depth 2; snout about 5 in length to base of caudal; eye 2.75 in snout; D. IX, 28; A. III, 27. Teeth lobate. Color in alcohol, dark, belly lighter; about nine slightly oblique lines from head to caudal; vertical stripes on base of caudal; indistinct stripes on head and cheeks.

3. *Microphis brachyurus* (Bleeker).

One specimen (No. 2, Steinhart Aquarium) 7 inches long. Rings 21-24; D. 36; snout about 4.5 in distance in front of anal. Tail about one-third length of body. Lateral line passing uninterruptedly into the lower edge of the tail. Edge of each ring with a small spine; vent below origin of dorsal; opercle with a longitudinal ridge and 3 or 4 other radiating ridges below it.

Color in alcohol, greenish with darker lines and mottlings.—Barton Warren Evermann and Alvin Seale, *San Francisco, Calif.*

FISHES IN THE LONG BEACH, (CALIFORNIA) AQUARIUM

The following were noted during March, 1923. They represent fairly well the more common species of the region adapted to aquarium life.

Heterodontus francisci, Triakis semifasciatus, Glyphis glaucus, Mustelus californicus, Squalus sucklii, Squatina californica, Rhinobatus productus, Platyrhinoidis triseriatus, Raja inornata, Urolophus halleri, Myliobatis californicus, Gymnothorax mordax, Paralabrax clathratus, Medialuna californiensis, Girella nigricans, Roncador stearnsi, Genyonemus lineatus, Umbrina roncador, Embiotoca jacksoni, Hyperprosopon argenteus, Cymatogaster aggregatus, Damalichthys argyrosomus, Hypsipops rubicundus, Pimelometopon pulcher, Oxyjulis californi-

cus, Sebastodes serriceps, Sebastodes carinatus, Sebastodes vexillaris, Sebastodes rastrelliger, Zaniolepis frenatus, Scorpaena guttata, Leptocottus armatus, Scorpaenichthys marmoratus, Clinocottus analis, Hypsopsetta guttulata, Pleuronichthys verticalis, Paralichthys californicus, Heterostichus rostratus, Hypsoblennius gentilis. A dried example of *Cetorhinus maximus*, about ten feet long, was said to have been captured in March, 1922 off San Pedro. It was exhibited on the pier.—HENRY W. FOWLER, *Philadelphia, Pa.*

THE STATUS OF SONORA SEMIANNULATA AND SONORA EPISCOPA

The following data may serve to throw some new light on the status of the two species of *Sonora semiannulata* (B. & G.) and *Sonora episcopa* (Kenn.)

The main difference in the original descriptions between *S. semiannulata* of B. and G. (1853) and *S. episcopa* (*Lamprosoma episcopum*) Kennicott (1859) lies in the color pattern. The former possessing several dorsal cross bands of black on both body and tail, while the latter is unicolor except for a small black or dark spot on each scale.

The writer was fortunate in being able to examine a good series of 31 specimens (A. M. N. H. 19401-31) of these species from a single locality, Ardmore, Okla., and the following data is the result of the study.

Color: Three specimens showed the typical banded condition of *semiannulata*, that is, black cross bands on dorsal and lateral portion of body and complete black rings on tail. One possessed 17 bands; another 11 bands (one very incomplete) and another 19 bands, several of them only partly perfect. All three specimens had 4 black rings on the tail and the usual black spot on top of the head.

Five specimens showed a dark brown head spot

and the black cross pattern was evidenced only by very faint indications at the side of the body and by cross bands on the ventral surface of the tail.

Five other specimens showed only the dark brown head spot; with this exception they could be called typical *episcopa,* the body being unicolor except for the small dark spots on each scale.

This series was sent to the Museum alive and Dr. G. K. Noble tells me that, the intergradation of both general color and pattern was much more evident in the living specimens than in preserved material.

There is seemingly not sufficient difference in the scutellation of the banded and unicolored forms to separate them and while the number of specimens examined is small, it seems sufficient to base conclusions upon.

The banded specimens possess — Ventrals 148 male, 151 female; caudals 44 male, 37 female. The averages for the unicolor specimens are—ventrals 145.4 male, 155.5 (extremes 141-160) female; caudals 44 male, 37 female (extremes 36-48). The averages for intergrades in color patterns are higher than either those of the banded or unicolor specimens. The snout appears to be a little more elongate in the banded specimens than in those which are unicolor, but there again, intermediates can be found and it is not believed that this difference is enough to separate the two forms.

While there is a very marked sexual difference in the ratio t/l, this is also evident in the banded forms. All specimens had 15 scale rows, except two in which a mid-dorsal row was lost posteriorly, giving a formula of 15-14; and two specimens possessed a formula of 16-15. One specimen in each of the two above types of abnormal scalation was a color intergrade, the other a typical *episcopa.*

It seems evident then, from an examination of this series that the supposed species *S. semiannulata* and

S. episcopa comprise in reality but a single variable species.

They should not be regarded as distinct species as the intergradation of characters of specimens from a single locality is only too evident when a good series is available for study.

The two extremes cannot be called subspecies because this series shows that they occupy the same geographic locality.

Baird and Girard's (1853) name *S. semiannulata* will stand rather than *S. episcopa* of Kennicott (1859).—A. I. Ortenburger, *New York, N. Y.*

THE DWARF SALAMANDER AT RALEIGH, N. C.

The dwarf salamander (*Manculus quadridigitatus*) was first taken by me at Raleigh on November 26, 1890 and has been taken in every succeeding year whenever I took the trouble to look for it at the right season. So far it has been taken only within a triangular strip of country extending about a mile along Walnut Creek, east of the rock-quarry road to the former lotus swamp and about half a mile north up the streams running into that swamp, although I have no doubt it occurs in other suitable situations.

The species breeds in mid winter and is seldom to be met with at other times yet I have taken practically no detailed notes on its breeding till this year when I decided to get a little definite data.

Now, the most favorable spot for finding this species has always been where the runlet from a certain small spring trickles sluggishly down a narrow cut about nine inches deep, into and out of a larger but not very vigorous spring some two yards below, and thence for a like distance till it loses itself in a wet marsh. Both these outlets are always choked with dead leaves in various stages of decay

and it is among these the salamanders and their eggs are found.

On visiting this place on December 23, 1922, I found plenty of the salamanders but no eggs, although one batch of eggs which were most probably those of *Pseudotriton montanus* were discovered in the runlet from the first spring as also two one year old larvæ and an adult of the latter species.

I then resolved to visit it again in January but the opportunity did not arrive till the first day of February, and on this occasion there were eggs of this species in abundance but the adults had mostly disappeared, a few however had not laid their eggs and were still present. The eggs were scattered about among the dead and decaying leaves lying in the water in the runlets from both springs, mostly singly, but occasionally in groups of from three to six, and on one leaf I counted four of these groups. They were not however attached to each other in any way or to any extent, nor did they adhere to the leaves any more than other similarly wet and gelatinous substances would naturally do. The eggs are of the usual "Spelerpes" type, unpigmented and about 2 mm. or less in diameter. The only other date I have on record for eggs is December 20, 1916, for which I have the following note,—"Took twenty-five * * saw a few eggs, but most had not laid."

I have found these salamanders not infrequent in the trickles from feeble springs and in the ooze from springy slopes near marshes, from the middle of October till late April, but except in the height of the breeding season, seldom more than one or two at a time. They can also be found at the same season under logs and rubbish in the damp low-grounds.

The larvæ mostly hatch out in March, transforming to adults two or three months later.

On February 1, 1923, I also found another lot of

eggs in the runlet from the larger spring which I imagine to be *P. montanus* eggs, they were of course unpigmented, much larger than the Manculus eggs, and bunched much more in groups on the dead leaves lying in the water.—C. S. BRIMLEY, *Raleigh, N. C.*

NOTES ON THE HERPETOLOGY OF ALBANY COUNTY, NEW YORK. II.

In an earlier number of COPEIA (No. 118, May 1923) some brief notes were presented which dealt with the salamander fauna of Albany county. In the present account it is proposed to record the frogs and toads from the same region, although the list is by no means impressive.

The Toads and Frogs of Albany County, New York:

1. *Bufo americanus* Holbrook. American Toad. Found in suitable localities all over the county.

2. *Bufo fowleri* Garman. Fowler's Toad. A few months ago when comparing some specimens of *B. fowleri* from Wading River, L. I., with some *Bufo* material from the vicinity of Albany, New York, I was impressed by the resemblance between certain of the specimens and thought that specific differences were not in all cases well marked. No more attention was given to the subject until the evening of June 12, 1923, when the peculiar and distinctive notes of *B. fowleri* were heard in a shallow pond which lies between open, hilly meadows in the western part of the city. A lone *B. americanus* sounded his trill from time to time, but the great chorus was that of the other species. The calls not only came from the margins of the pond itself, but from the dry hillside several rods from the water, where an active male was captured.

Examinations of specimens in the collection of the State Museum revealed the fact that two other specimens had been taken, one at Kenwood, on the

southern outskirts of Albany city Sept. 28, 1901 and the second at Bells' Pond about four miles south of Hudson, New York, in Columbia county, May 30, 1921.

3. *Hyla crucifer* Wied. Spring Peeper. Very common in the vicinity of Albany. Mated pairs taken April 10, 1923, deposited their eggs in captivity April 11.

4. *Hyla versicolor versicolor* Le Conte. Tree Toad. Common throughout the county. Specimens in the State Museum collections from Vorheesville, Shakers, Karners and Albany. James Hall (31st Rept. State Museum 1879, p. 12) reported the capture of a specimen found feeding on sugar spread on pine trees for Lepidoptera.

5. *Rana catesbeiana* Shaw. Bull Frog. Fairly abundant in the more permanent ponds in Albany county. Specimens in the collection from Normansville, near Cohoes, Elsmere, and Albany.

6. *Rana clamitans* Latreille. Green Frog. Common in suitable situations all over the county.

7. *Rana palustris* Le Conte. Pickerel Frog. Fairly common but not in such abundance as the leopard frogs. Many hibernate in the cold springs near Meadowdale in company with the two-lined and dusky salamanders.

8. *Rana pipiens* Schreber. Leopard Frog. Common all over the county.

9. *Rana sylvatica* Le Conte. Wood Frog. Very common. The eggs are deposited in the spring during the period when *Ambystoma jeffersonianum* and *A. maculatum* are occupying the ponds and laying eggs.—S. C. Bishop, *N. Y. State Museum.*

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